



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/561,873

02/05/2007

Joel C. Kent

ELG055-US2

1433

27788 7590 05/20/2008

Tyco Electronics Corporation
309 Constitution Drive
Mail Stop R34/2A
Menlo Park, CA 94025

EXAMINER

NADKARNI, SARVESH J

ART UNIT

PAPER NUMBER

2629

MAIL DATE

DELIVERY MODE

05/20/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,873	Applicant(s) KENT ET AL.	
	Examiner SARVESH J. NADKARNI	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on February 5, 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/22/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the application filed under 35 U.S.C. 371(c) on February 5, 2007, Application Number: 10/561,873 (hereinafter referred to as “application”) Publication Number: US 2007/0268276 A1. The application is in the national examination stage of PCT/US04/16908, filed on May 26, 2004, Publication Number: WO/2005/006242 published on January 20, 2005. Page and line number references made in this action relate to the originally filed application, not to either publication. Claims 1-10 and 21 have been cancelled. No new claims have been added. Therefore claims 11-20 are currently pending with this application.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim references “the elements” without proper introduction in the claim itself or within claim 11 from which claim 13 depends. Appropriate correction is required. Strictly for purposes of examination, this language is given the broadest reasonable interpretation in view of the originally filed specification and is understood to mean the grating structuring elements.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kambara et al., (PCT/US97/23909) hereinafter referred to as the “Kambara PCT” further in view of Kent et al., (US 2002/0104691 A1) hereinafter referred to as the “Kent Publication”.
3. Regarding claim 11, the Kambara PCT clearly teaches **a touch display** (see at least page 9 lines 1-10 and further illustrated at least at FIGs. 1-4), **comprising: a display device comprising a vacuum fluorescent display or a field emission display** (see at least page 28, lines 14-22 and further illustrated at least at FIGs 1-5); **a transparent acoustic substrate having a surface** (see at least page 28 lines 10-22 further illustrated at least at FIGs. 1-6), **the substrate forming a front surface of the display device** (see at least page 51, lines 1-7 describing display behind substrate, further illustrated at least at FIGs. 24A, 24B and 24C); **an acoustic transducer** (see at least at FIGs. 24A and 24B further discussed at least at further described at least at page 51 lines 8-14); **and an acoustically diffractive grating** (see at least FIG 24B further described at least at page 50 lines 24-32 describing element 240 and further element 232 described 51 lines 8-14) **the diffractive grating coupling acoustic energy within the acoustic transducer to an acoustic wave propagating along the surface of the substrate** (see at least FIG. 5 further described at least at page 25 lines 13-23).

Art Unit: 2629

4. The Kambara PCT does not explicitly teach the acoustically diffractive grating is **disposed between the substrate and the transducer**. In the same field of endeavor, the Kent Publication clearly teaches the diffractive grating **disposed between the substrate and the transducer** (see at least page 8 paragraphs [0078]-[0079] and FIG. 5 illustrating).

5. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have been motivated to incorporate design of transducer in relation to substrate and grating as taught by the Kent Publication into the acoustic touch screen display device of Kambara PCT because both are within the same field of endeavor, and furthermore, because as disclosed the device of the Kent Publication improves touch screen durability and insensitivity to contaminants (see Kent Publication at least at page 3, paragraph [0023]).

6. Regarding claim 12, the Kambara PCT in view of the Kent Publication clearly teaches **the touch display of claim 11 (see above), wherein the diffractive grating comprises an array of parallel elements** (see at least Kambara PCT at least at FIG. 19B further described at page 23 lines 24-26).

7. Regarding claim 13, the Kambara PCT in view of the Kent Publication clearly teaches **the touch display of claim 11 (see above), wherein the elements are spaced from each other a distance equal to the wavelength of the acoustic wave** (see Kambara PCT at least at pages 28-29 describing relation of wavelength to grating distance at lines 26-end on page 28 and continued at lines 1-2 on page 29).

8. Regarding claim 14, the Kambara PCT in view of the Kent Publication clearly teaches **the touch display of claim 11 (see above), wherein the diffractive grating is structurally**

distinct from the transducer and substrate (see Kambara PCT at least FIGs. 8 element 30 as further described at least at page 32 lines 5-15).

9. Regarding claim 15, the Kambara PCT in view of the Kent Publication clearly teaches **the touch display of claim 11 (see above), wherein the diffractive grating is formed structurally integrated with the substrate** (see Kambara PCT, at least at FIGs. 15A and 15B further described at least at page 23 lines 8-13).

10. Regarding claim 16, the Kambara PCT in view of the Kent Publication clearly teaches **the touch display of claim 11 (see above), wherein the diffractive grating is structurally integrated with the transducer** (see Kent Publication at least at FIG. 5 further describing structural integration at least at paragraph [0028]).

11. Regarding claim 17, the Kambara PCT in view of the Kent Publication clearly teaches **the touch display of claim 11 (see above), further comprising: another acoustic transducer; and another acoustically diffractive grating** (see Kambara PCT at least at FIGs. 5 or 6 depicting elements 5a and 8b corresponding with element 4b and 10b further described at least at page 25 under heading EXAMPLE 1 further continued through page 30) **disposed between the substrate and the other transducer** (see Kent Publication at least page 8 paragraphs [0078]-[0079] and FIG. 5 illustrating), **the other diffractive grating coupling acoustic energy within the other acoustic transducer to the acoustic wave** (see Kambara PCT at least at FIGs. 5 or 6 depicting elements 5a and 8b corresponding with element 4b and 10b further described at least at page 25 under heading EXAMPLE 1 further continued through page 30).

Art Unit: 2629

12. Regarding claim 18, the Kambara PCT in view of the Kent Publication clearly teaches **the touch display of claim 11 (see above), wherein the substrate surface is substantially flat** (see Kambara PCT at least at 24A and 24b further described at least at page 50 lines 24-end).

13. Regarding claim 19, the Kambara PCT in view of the Kent Publication clearly teaches **the touch display of claim 11 (see above), wherein the transducer comprises a piezoelectric element** (see Kambara PCT at least page 9, lines 1-5).

14. Regarding claim 20 the Kambara PCT in view of the Kent Publication clearly teaches **the touch display of claim 11 (see above), wherein the grating comprises alternating tines and slots, and wherein the coupling between the transducer and the substrate through the tines is approximately 180 degrees out of phase with the coupling between the transducer and the substrate through the slots** (it would be obvious to one of ordinary skill in the art that the tines and slots in relation to the transducer would be 180 degrees out of phase in order to ensure a proper distribution and spacing of tines and slots and thereby effectively receiving the acoustic signal through the properly formed acoustic path in order for proper functioning of the device).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SARVESH J. NADKARNI whose telephone number is (571)270-1541. The examiner can normally be reached on 11AM-7PM EST Monday - Thursday.

Art Unit: 2629

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sarvesh J. Nadkarni
Examiner – Art Unit 2629

/Amare Mengistu/

Supervisory Patent Examiner, Art Unit 2629